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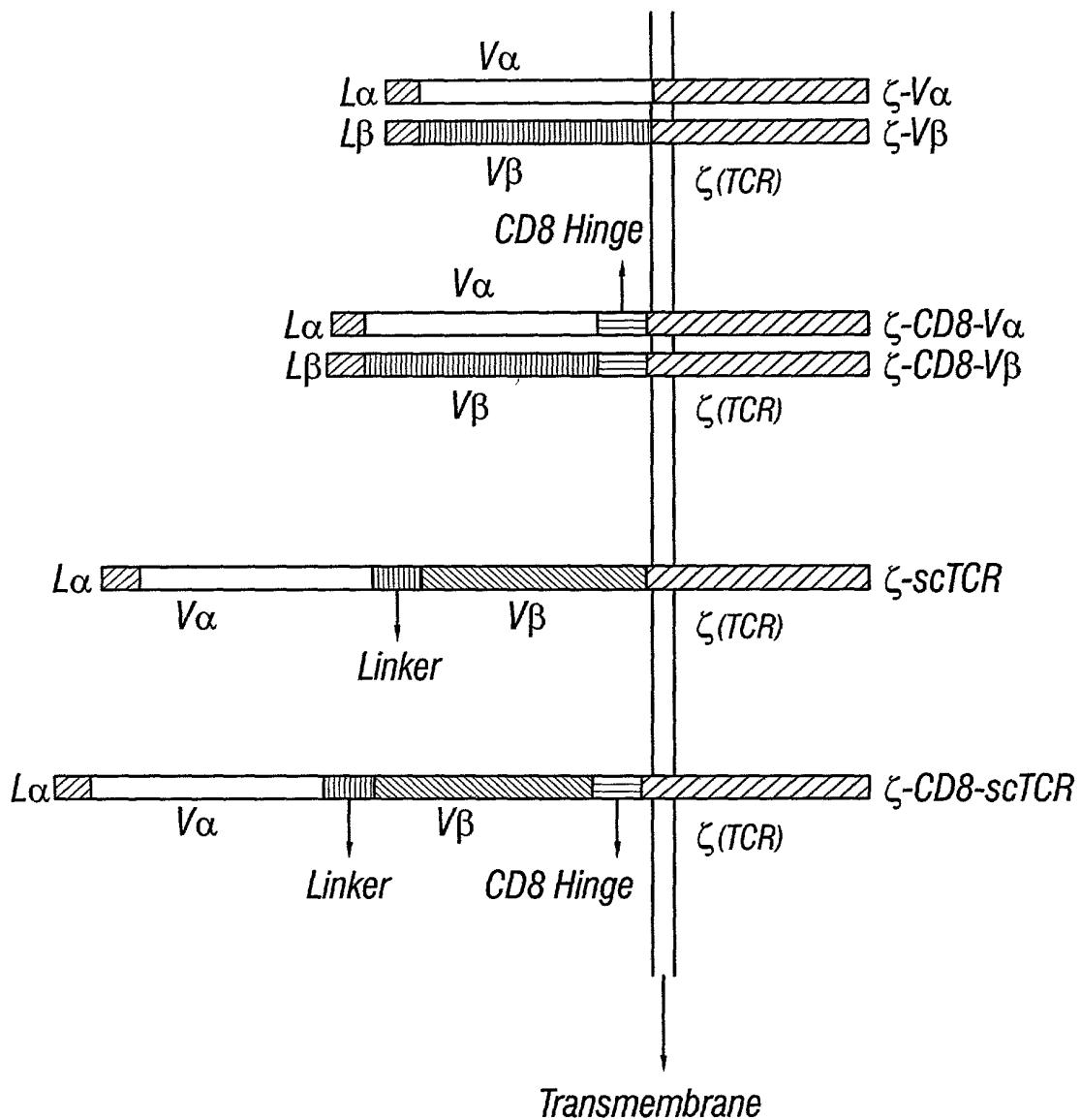


FIG. 1

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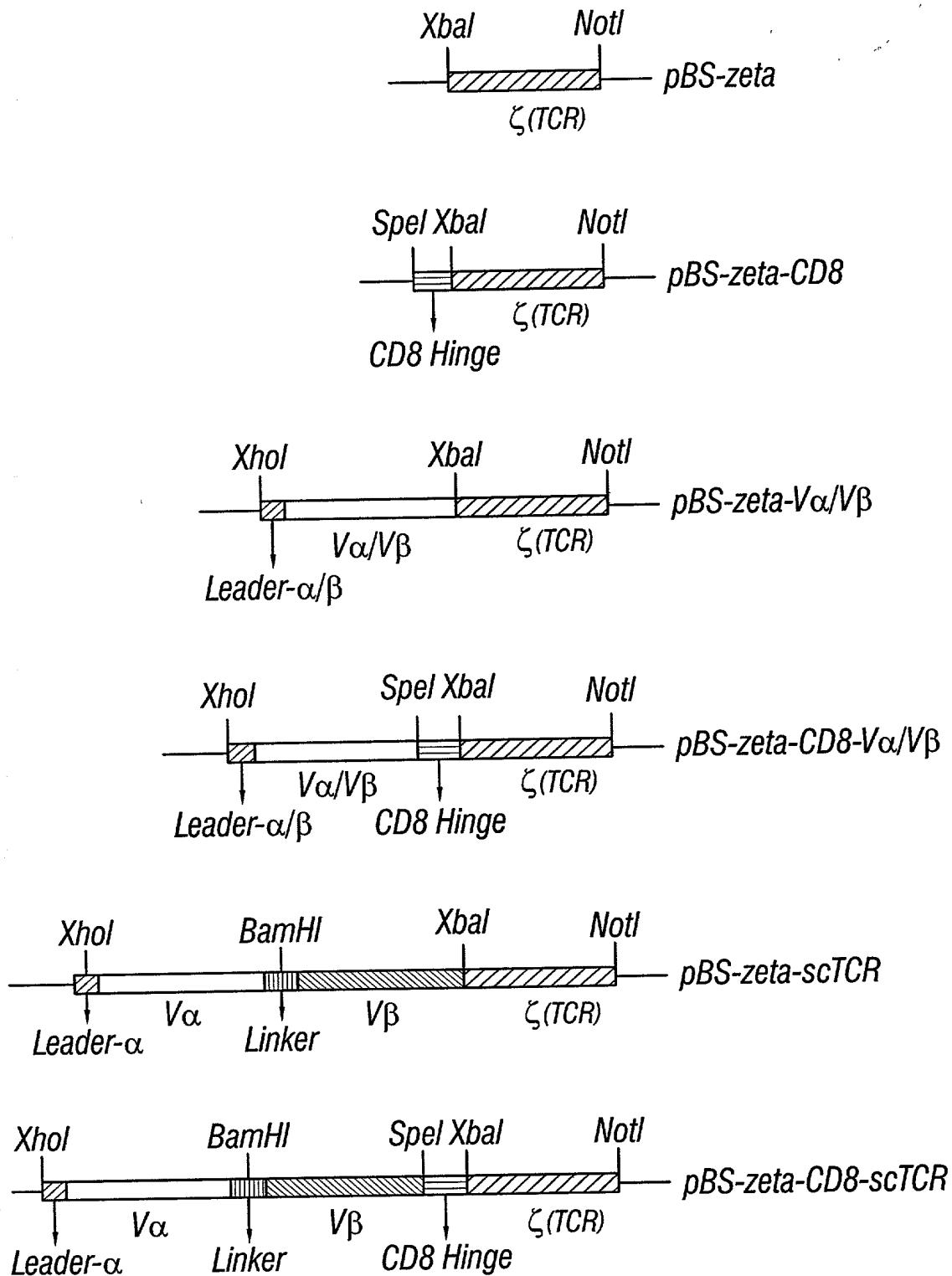


FIG. 2

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9 18 27 36 45 54  
CTC GAG ATG CAG AGG AAC CTG GGA GCT GTG CTG GGG ATT CTG TGG GTG CAG ATT [SEQ ID NO: 1]  
-----  
L E M Q R N L G A V L G I L W V Q I [SEQ ID NO: 2]  
-----  
63 72 81 90 99 108  
TGC TGG CTG AAA GAA CAG CAA GTG CAG CAG AGT CCC GCA TCC TTG GTT CTG CAG  
-----  
C W L K E Q Q V Q Q S P A S L V L Q  
-----  
117 126 135 144 153 162  
GAG GGG GAG AAC GCA GAG CTC CAG TGT AGC TTT TCC ATC TTT ACA AAC CAG GTG  
-----  
E G E N A E L Q C S F S I F T N Q V  
-----  
171 180 189 198 207 216  
CAG TGG TTT TAC CAA CGT CCT GGG GGA AGA CTC GTC AGC CTG TTG TAC AAT CCT  
-----  
Q W F Y Q R P G G R L V S L L Y N P  
-----  
225 234 243 252 261 270  
TCT GGG ACA AAG CAG AGT GGG AGA CTG ACA TCC ACA ACA GTC ATT AAA GAA CGT  
-----  
S G T K Q S G R L T S T T V I K E R  
-----  
279 288 297 306 315 324  
CGC AGC TCT TTG CAC ATT TCC TCC CAG ATC ACA GAC TCA GGC ACT TAT CTC  
-----  
R S S L H I S S S Q I T D S G T Y L

**FIG. 3A**

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333 342 351 360 369 378  
TGT GCC TCA AAT TCT GGA GGA AGC AAT GCA AAG CTA ACC TTC GGG AAA GGC ACT  
-----  
C A S N S G G S N A K L T F G K G T  
-----  
387 396 405 414 423 432  
AAA CTC TCT GTT AAA TCA GGT GGC GGA GGG TCT GGC GGG GGT GGA TCC GGG GGT  
-----  
K L S V K S G G G S G G G G S G G  
-----  
441 450 459 468 477 486  
GGA GGC TCA GAG GCT GCA GTC ACC CAA AGC CCA AGA AAC AAG GTG GCA GTA ACA  
-----  
G G S E A A V T Q S P R N K V A V T  
-----  
495 504 513 522 531 540  
GGA GGA AAG GTG ACA TTG AGC TGT AAT CAG ACT AAT AAC CAC AAC AAC ATG TAC  
-----  
G G K V T L S C N Q T N N H N N M Y  
-----  
549 558 567 576 585 594  
TGG TAT CGG CAG GAC ACG GGG CAT GGG CTG AGG CTG ATC CAT TAT TCA TAT GGT  
-----  
W Y R Q D T G H G L R L I H Y S Y G  
-----  
603 612 621 630 639 648  
GCT GGC AGC ACT GAG AAA GGA GAT ATC CCT GAT GGA TAC AAG GCC TCC AGA CCA  
-----  
A G S T E K G D I P D G Y K A S R P

**FIG. 3B**

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657	666	675	684	693	702
AGC CAA GAG AAC TTC TCC CTC ATT CTG GAG TTG GCT ACC CCC TCT CAG ACA TCA					
-----					
S	Q	E	N	F	S
L	Q	L	E	L	A
T	P	S	I	T	S
711	720	729	738	747	756
GTG TAC TTC TGT GCC AGC GGT GAG ACA GGG ACC AAC GAA AGA TTA TTT TTC GGT					
-----					
V	Y	F	C	A	S
G	E	T	G	T	N
E	R	L	F	F	G
765	774	783	792	801	810
CAT GGA ACC AAG CTG TCT GTC CTG ACT AGT AAC TCC ATC ATG TAC TTC AGC CAC					
-----					
H	G	T	K	L	S
V	L	T	S	N	S
I	M	Y	F	S	H
819	828	837	846	855	864
TTC GTG CCG GTC TTC CTG CCA GCG AAG CCC ACC ACG ACG CCA GCG CCG CGA CCA					
-----					
F	V	P	V	F	L
P	A	K	P	T	T
T	P	A	P	R	P
873	882	891	900	909	918
CCA ACA CCG GCG CCC ACC ATC GCG TCG CAG CCC CTG TCC CTG CGC CCA TCT AGT					
-----					
P	T	P	A	P	T
I	A	S	Q	P	L
S	L	R	P	S	S
927	936	945	954	963	972
TCT AGA GAT CCC AAA CTC TGC TAC CTG CTG GAT GGA ATC CTC TTC ATC TAT GGT					
-----					
S	R	D	P	K	L
C	Y	L	L	D	G
I	L	F	I	Y	G

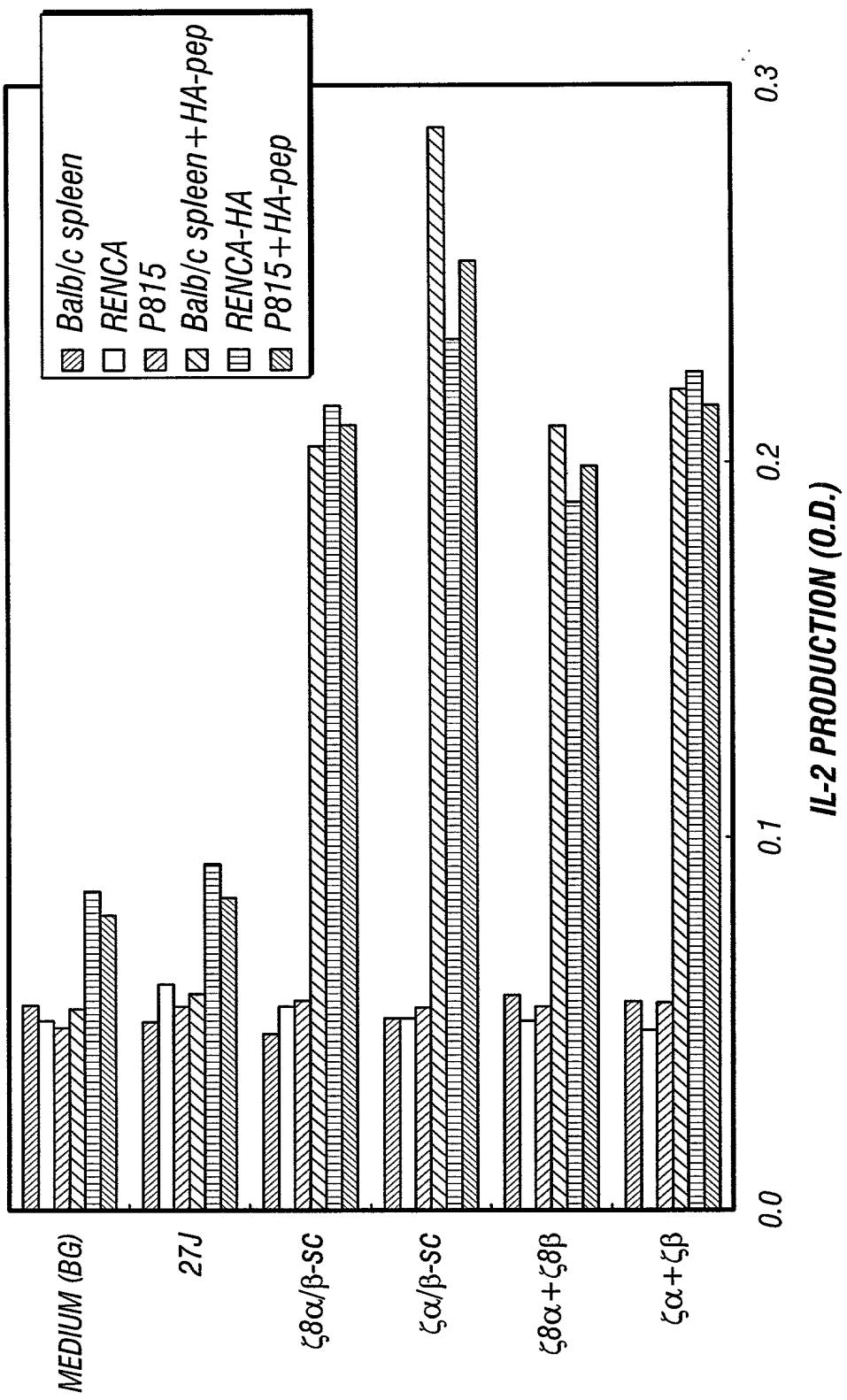
**FIG. 3C**

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981 990 999 1008 1017 1026  
GTC ATT CTC ACT GCC TTG TTC CTG AGA GTG AAG TTC AGC AGG AGC GCA GAC GCC  
-----  
V I L T A L F L R V K F S R S A D A  
1035 1044 1053 1062 1071 1080  
CCC GCG TAC CAG CAG GGC CAG AAC CAG CTC TAT AAC GAG CTC AAT CTA GGA CGA  
-----  
P A Y Q Q G Q N Q L Y N E L N L G R  
1089 1098 1107 1116 1125 1134  
AGA GAG GAG TAC GAT GTT TTG GAC AAG AGA CGT GGC CGG GAC CCT GAG ATG GGG  
-----  
R E E Y D V L D K R R G R D P E M G  
1143 1152 1161 1170 1179 1188  
GGA AAG CCG AGA AGG AAG AAC CCT CAG GAA GGC CTG TAC AAT GAA CTG CAG AAA  
-----  
G K P R R K N P Q E G L Y N E L Q K  
1197 1206 1215 1224 1233 1242  
GAT AAG ATG GCG GAG GCC TAC AGT GAG ATT GGG ATG AAA GGC GAG CGC CGG AGG  
-----  
D K M A E A Y S E I G M K G E R R R  
1251 1260 1269 1278 1287 1296  
GGC AAG GGG CAC GAT GGC CTT TAC CAG GGT CTC AGT ACA GCC ACC AAG GAC ACC  
-----  
G K G H D G L Y Q G L S T A T K D T  
1305 1314 1323 1332 1341 1350  
TAC GAC GCC CTT CAC ATG CAG GCC CTG CCC CCT CGC TAA GCG GCC ACC GCG  
-----  
Y D A L H M Q A L P P R \* A A A T A

**FIG.3D**

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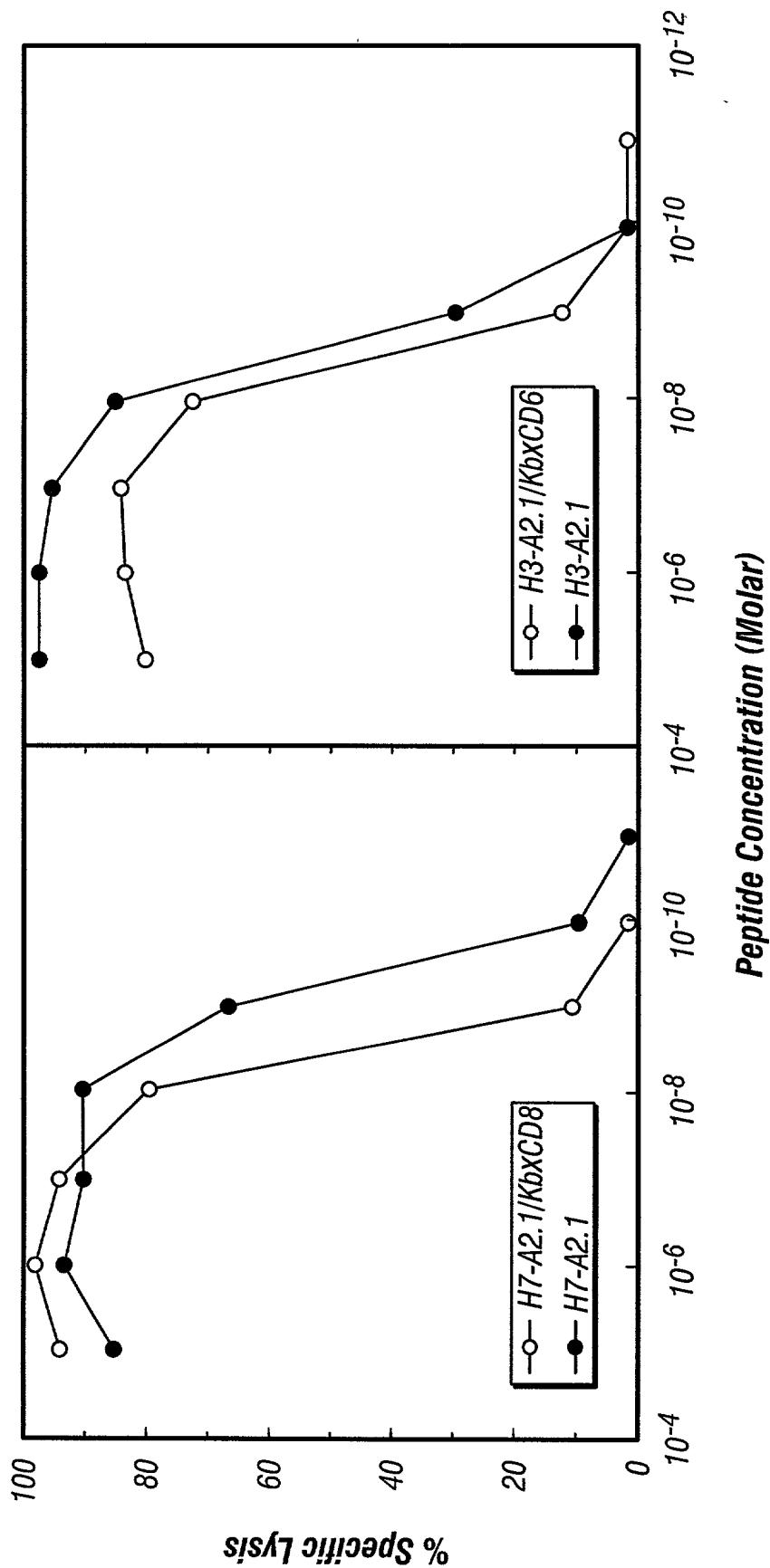


FIG. 5

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Alpha Groups

V $\alpha$ 1	CCC AAG GCA CTG ATG TTC ATC TTC	[SEQ ID NO: 3]
V $\alpha$ 2	TGA GAC AAA GTC CCC AAT CTC TGA CAG	[SEQ ID NO: 4]
V $\alpha$ 3	CTG CAG CTG CTC CTC AAG TAC TAT TC	[SEQ ID NO: 5]
V $\alpha$ 4.1,2,3	TCC CGG AGA AGG TCC ACA GTT CCT CTT T	[SEQ ID NO: 6]
V $\alpha$ 4.4	GAA GCA GCA GAG GGT TTG AAG CCA CAT AC	[SEQ ID NO: 7]
2.		
V $\alpha$ 5	GGC AGG TCT TCA GTT GCT TAT GAA GGT	[SEQ ID NO: 8]
V $\alpha$ 6	GGT TCC TCT TCA GGG TCC AGA ATA TGT	[SEQ ID NO: 9]
V $\alpha$ 7	GCG AAG AAC TCA CCC TGG ACT GTT CAT	[SEQ ID NO: 10]
V $\alpha$ 8	GAG CTC CAC AGA CAA CAA GAG GAC GCA GCA	[SEQ ID NO: 11]
V $\alpha$ 9	GAG CTG CGA CGT TCC TTA GTG ACT GTG	[SEQ ID NO: 12]
3.		
V $\alpha$ 10	CCT CGT CAG CCT GTT GTC CAA TCC TTC TGG	[SEQ ID NO: 13]
V $\alpha$ 11	CAG CCT CAT CAA TCT GTT CTA CTT GGC T	[SEQ ID NO: 14]
V $\alpha$ 12	CCA CCA GGG ACC ACA GTT TAT CAT TCA A	[SEQ ID NO: 15]
V $\alpha$ 14	ACC TGG AGA GAA TCC TAA GCT CAT CAT	[SEQ ID NO: 16]
V $\alpha$ 15	AGG TCT TGT GTC CCT GAC AGT CCT GGT T	[SEQ ID NO: 17]
4.		
V $\alpha$ 16	CAA GCA AAC ACT GTA GTG CAG AGC CCT TCC	[SEQ ID NO: 18]
V $\alpha$ 17	CAA GAC ATC CAT AAC TGC CCT ACA G	[SEQ ID NO: 19]
V $\alpha$ 18	GTG TAT GAA ACC CAG GAC AGT TCT TAC	[SEQ ID NO: 20]
V $\alpha$ 19	CCG TAT TTC TTT CTT ATG TTG TTT TGG AT	[SEQ ID NO: 21]
V $\alpha$ 20	CAA AGC TCT CCA TCG CTG ACT GTT CAA G	[SEQ ID NO: 22]

**FIG. 6A**

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Beta Groups

1.

V $\beta$ 1	ATC TAA TCC TGG GAA GAG CAA AT	[SEQ ID NO: 23]
V $\beta$ 2	GGC GTC TGG TAC CAC GTG GTC AA	[SEQ ID NO: 24]
V $\beta$ 3	GTG AAA GGG CAA GGA CAA AAA GC	[SEQ ID NO: 25]
V $\beta$ 4	GAT ATG CGA ACA GTA TCT AGG C	[SEQ ID NO: 26]
V $\beta$ 5.1	ACA TAA TCA AAG GAA AGG GAG AA	[SEQ ID NO: 27]

2.

V $\beta$ 6	TCC TGA TTG GTC AGG AAG GGC AA	[SEQ ID NO: 28]
V $\beta$ 7	TAC CTG ATC AAA AGA ATG GGA GA	[SEQ ID NO: 29]
V $\beta$ 8.1	ATA ACC ATG ACA ATA TGT ACT GG	[SEQ ID NO: 30]
V $\beta$ 8.2	ATA ACC ACA ACA ACA TGT ACT GG	[SEQ ID NO: 31]
V $\beta$ 8.3	ATA GCC ACA ACT ACA TGT ACT GG	[SEQ ID NO: 32]

3.

V $\beta$ 9	AGC TTG CAA GAG TTG GAA AAC CA	[SEQ ID NO: 33]
V $\beta$ 10	GAT TAT GTT TAG CTA CAA TAA TA	[SEQ ID NO: 34]
V $\beta$ 11	ACA AGG TGA CAG GGA AGG GAC AA	[SEQ ID NO: 35]
V $\beta$ 12	ACC TAC AGA ACC CAA GGA CTC AG	[SEQ ID NO: 36]
V $\beta$ 13	CAG TTG CCC TCG GAT CGA TTT TC	[SEQ ID NO: 37]

4.

V $\beta$ 14	GCC GAG ATC AAG GCT GTG GGC AG	[SEQ ID NO: 38]
V $\beta$ 15	AGA ACC ATC TGT AAG AGT GGA AC	[SEQ ID NO: 39]
V $\beta$ 16	CAT CAA ATA ATA GAT ATG GGG CA	[SEQ ID NO: 40]
V $\beta$ 17	GTA GTC CTG AAA AAG GGC ACA CT	[SEQ ID NO: 41]
V $\beta$ 18	CAT CTG TCA AAG TGG CAC TTC A	[SEQ ID NO: 42]

**FIG. 6B**

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9	18	27	36	45	54	
ATG AAA TCC TTG AGT GTT TCC CTA GTG GTC CTG TGG CTC CAG TTA AAC TGG GTG						[SEQ ID NO: 43]
-----						
Met Lys Ser Leu Ser Val Ser Leu Val Val Leu Trp Leu Gln Leu Asn Trp Val						[SEQ ID NO: 44]
-----						
63	72	81	90	99	108	
CAG AGC CAG CAG AAG GTG CAG CAG AGC CCA GAA TCC CTC AGT GTC CCA GAG GGA						
-----						
Gln Ser Gln Gln Lys Val Gln Gln Ser Pro Glu Ser Leu Ser Val Pro Glu Gly						
-----						
117	126	135	144	153	162	
GGC ATG GCC TCT CTC ACC TGC ACT TCA AGT GAT CGC AAT TTT CAG TAT TTC TGG						
-----						
Gly Met Ala Ser Leu Asn Cys Thr Ser Ser Asp Arg Asn Phe Gln Tyr Phe Trp						
-----						
171	180	189	198	207	216	
TGG TAC AGA CAG CAT TCT GGA GAA GGC CCC AAA GCA CTG ATG TCC ATC TTC TGG						
-----						
Trp Tyr Arg Gln His Ser Gly Glu Gly Pro Lys Ala Leu Met Ser Ile Phe Ser						

**FIG. 7A**

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225 234 243 252 261 270  
GAT GGT GAC AAG AAA GAA GGC AGA TTC ACA GCT CAC CTC AAT AAG GCC AGC CTG  
-----  
Asp Gly Asp Lys Lys Glu Gly Arg Phe Thr Ala His Leu Asn Lys Ala Ser Leu  
279 288 297 306 315 324  
CAT GTT TCC CTG CAC ATC AGA GAC TCC CAG CCC AGT GAC TCC GCT CTC TAC TTC  
-----  
His Val Ser Leu His Ile Arg Asp Ser Gln Pro Ser Asp Ser Ala Leu Tyr Phe  
333 342 351 360 369 378  
TGT GCA GTT ATG GAT TAT AAC CAG GGG AAG CTT ATC TTT GGG CAG GGT ACC AAG  
-----  
Cys Ala Val Met Asp Tyr Asn Gln Gly Lys Leu Ile Phe Gly Gln Gly Thr Lys  
387  
TTA TCT ATC AAG CCC 3'  
-----  
Leu Ser Ile Lys Pro

**FIG. 7B**

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9 18 27 36 45 54  
ATG GGC TCC AGA CTC TTC TTT GTG GTT TTG ATT CTC ATG TGT GCA AAA CAC ATG [SEQ ID NO: 45]  
-----  
Met Gly Ser Arg Leu Phe Phe Val Val Leu Ile Leu Leu Cys Ala Lys His Met [SEQ ID NO: 46]  
-----  
63 72 81 90 99 108  
GAG GCT GCA GTC ACC CAA AGT CCA AGA AGC AAG GTG GCA GTA ACA GGA GGA AAG  
-----  
Glu Ala Ala Val Thr Gln Ser Pro Arg Ser Lys Val Ala Val Thr Gly Gly Lys  
-----  
117 126 135 144 153 162  
GTG ACA TTG AGC TGT CAC CAG ACT AAT AAC CAT GAC TAT ATG TAC TGG TAT CGG  
-----  
Val Thr Leu Ser Cys His Gln Thr Asn Asn His Asp Tyr Met Tyr Trp Tyr Arg  
-----  
171 180 189 198 207 216  
CAG GAC ACG GGG CAT GGG CTG AGG CTG ATC CAT TAC TCA TAT GTC GCT GAC AGC  
-----  
Gln Asp Thr Gly His Gly Leu Arg Leu Ile His Tyr Ser Tyr Val Ala Asp Ser

**FIG. 7C**

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225            234            243            252            261            270  
ACG GAG AAA GGA GAT ATC CCT GAT GGG TAC AAG GCC TCC AGA CCA AGC CAA GAG  
-----  
Thr Glu Lys Gly Asp Ile Pro Asp Gly Tyr Lys Ala Ser Arg Pro Ser Gln Glu

279            288            297            306            315            324  
AAT TTC TCT CTC ATT CTG GAG TTG GCT TCC CTT TCT CAG TCA GCT GTA TAT TTC  
-----  
Asn Phe Ser Leu Ile Leu Glu Leu Ala Ser Leu Ser Gln Ser Ala Val Tyr Phe

333            342            351            360            369            378  
TGT GCC AGC AGC GAT TTC GCC GGG ACA GGG GGC TTC TAT GAA CAG TAC TTC GGT  
-----  
Cys Ala Ser Ser Asp Phe Ala Gly Thr Gly Gly Phe Tyr Glu Gln Tyr Phe Gly

387            396  
CCC GGC ACC AGG CTC ACG GTT TCT 3'  
-----  
Pro Gly Thr Arg Leu Thr Val Ser

**FIG. 7D**

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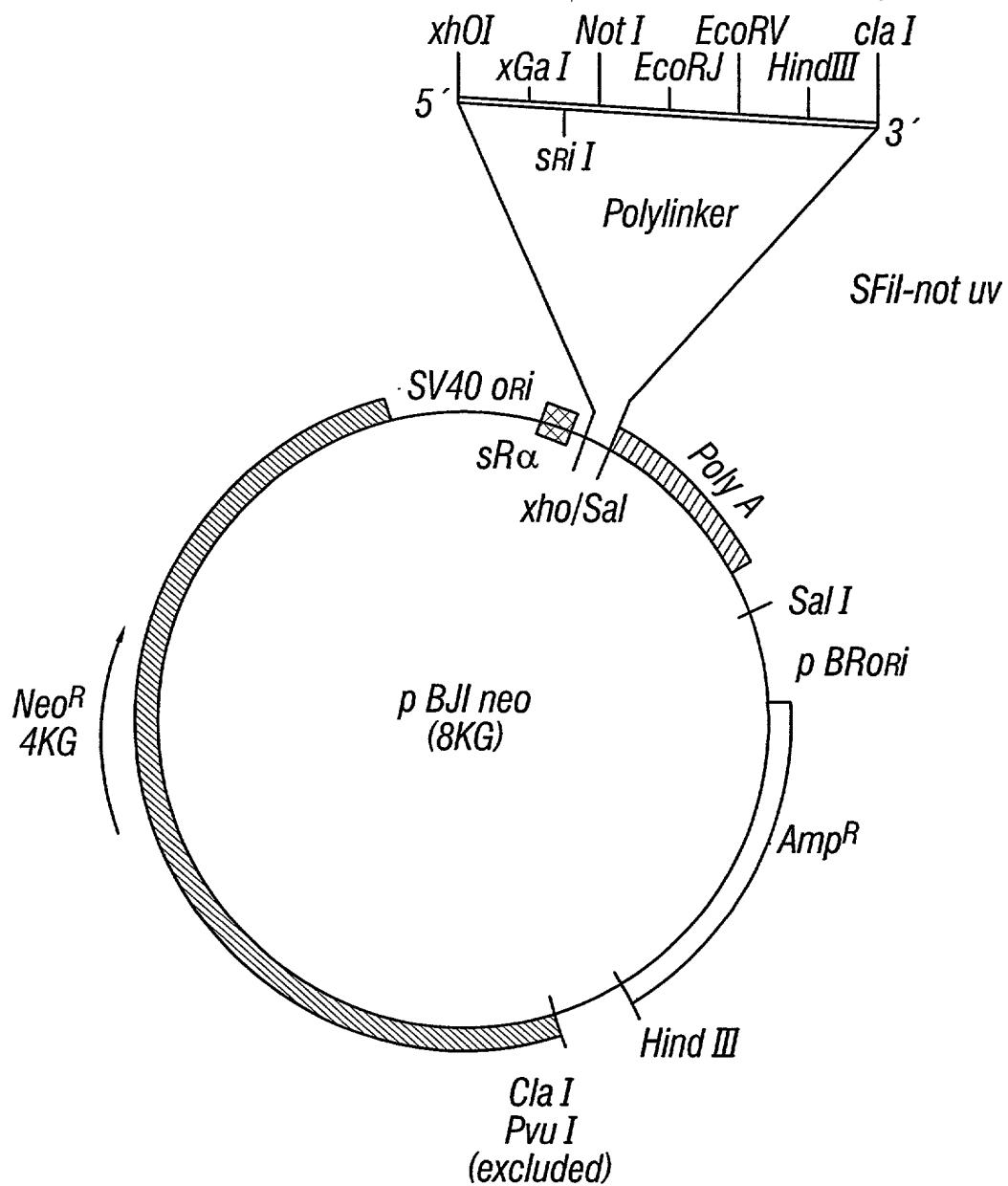
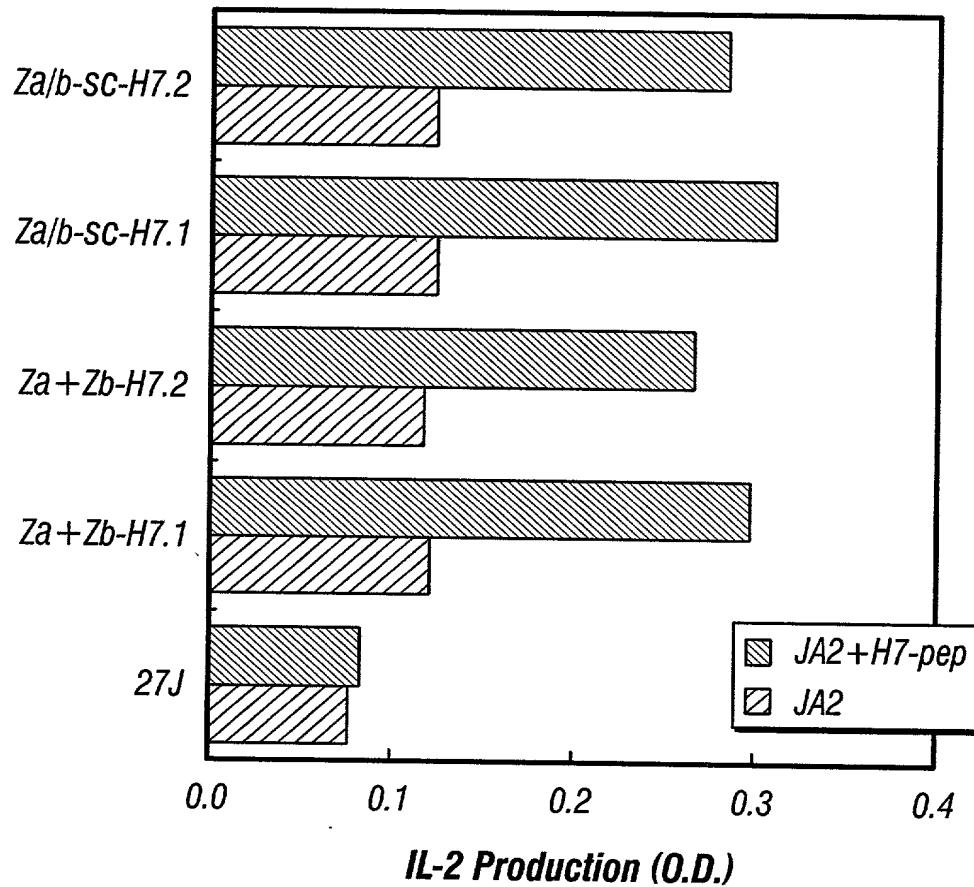


FIG. 8

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**FIG. 9**

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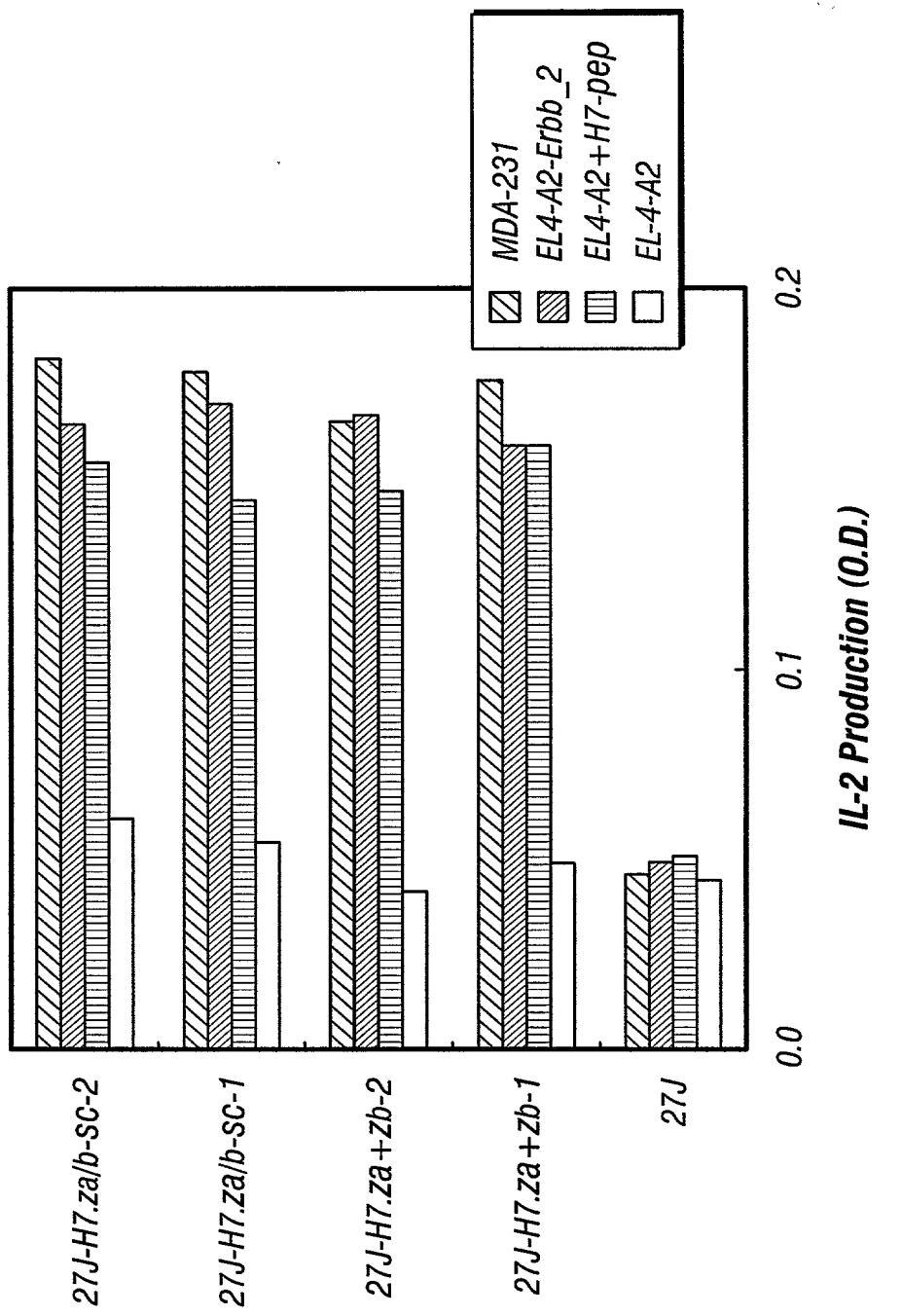


FIG. 10